F. A. SABBATON.

Device for Feeding Gas-Retort Furnaces with Ignited Coke from the Retorts.

No. 218,689. **Patented Aug. 19, 1879.**

FIG. 2.

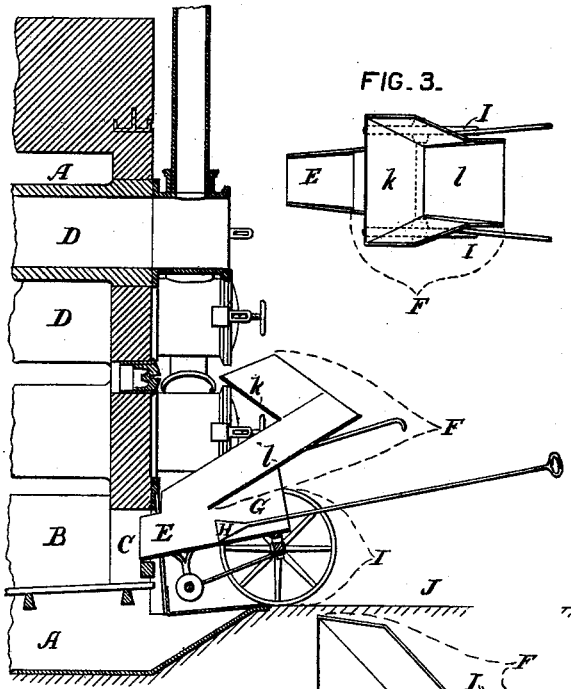
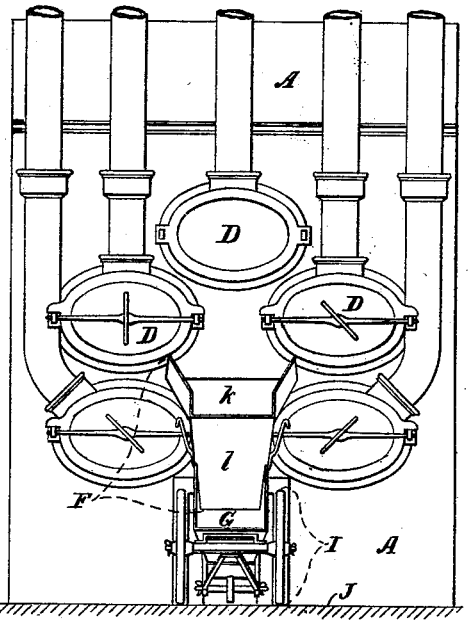


FIG. 3.

FIG. 1.



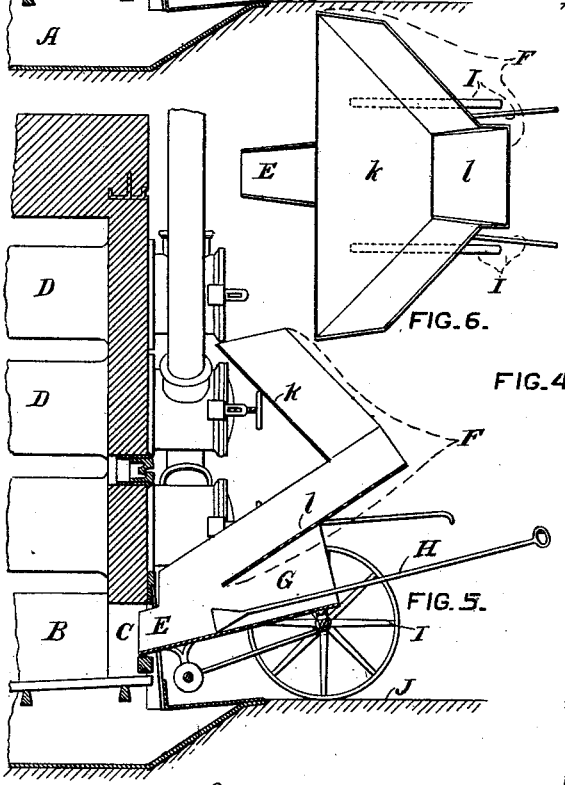
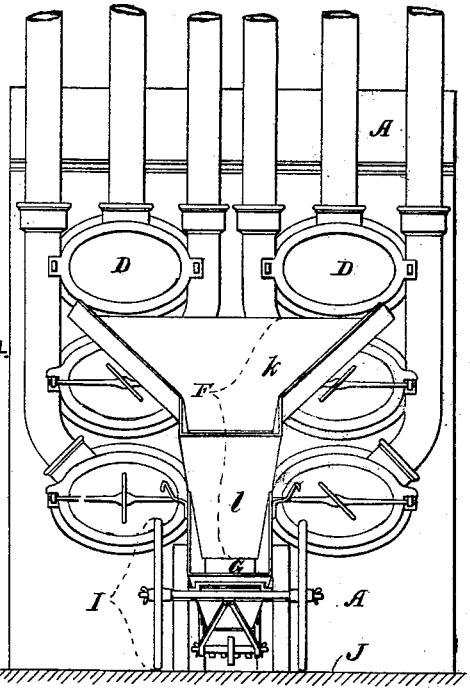


FIG. 6.

FIG. 5.

FIG. 4.



WITNESSES:

James H. Slade.
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UNITED STATES PATENT OFFICE.

FREDERICK A. SABBATON, OF TROY, NEW YORK.

IMPROVEMENT IN DEVICES FOR FEEDING GAS-RETORT FURNACES WITH IGNITED COKE FROM THE RETORTS.

Specification forming part of Letters Patent No. **218,689**, dated August 19, 1879; application filed June 16, 1879.

To all whom it may concern:

Be it known that I, FREDERICK A. SABBATON, of the city of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Devices for Feeding Gas-Retort Furnaces with Ignited Coke from the Retorts, of which invention the following is a specification, reference being had to the accompanying drawings.

I believe that ignited coke has been heretofore drawn from an upper retort of a gas-retort furnace into a temporary chute, down which the coke might pass or be pushed directly into the fire-chamber of the furnace.

The object of this invention is to produce a very simple, convenient, and portable device, by the use of which the workmen can readily transfer the hot coke, which is drawn from a retort in a common gas-retort furnace, directly into the fire-chamber of the furnace.

To that end this invention consists of a device having combined therein a spout fitting the ordinary feed-door, through which solid fuel is introduced into the furnace, a conduit which, when the spout is adjusted to the feed-door, will receive hot coke drawn from a retort in the furnace and conduct the coke into the spout, and a passage arranged opposite to the spout, and through which the workmen can use a stoking-bar to push the coke from the spout through the feed-door and into the furnace.

This invention further consists in the combination, with the device composed of the spout, conduit, and stoking-passage, of a wheeled truck, whereby the whole is rendered conveniently portable and readily adjustable to the furnace.

In the aforesaid drawings, Figure 1 is a front elevation, and Fig. 2 a central vertical section, of a portion of a common gas-retort furnace having five retorts with one of my improved coke-feeders applied to conduct red-hot coke drawn from the upper retort into the doorway of the fire-chamber of the furnace; and Fig. 3 is a plan of the same coke-feeder removed from the furnace. Fig. 4 is a front elevation, and Fig. 5 a central sectional elevation, of a part of a gas-retort furnace having six retorts therein with one of these improved coke-feeding devices applied to conduct coke from either one or the other, or both, of the upper retorts to the doorway of the furnace fire-chamber; and Fig. 6 is a separate plan of the same coke-feeding device.

A represents a portion of a coal-gas-retort furnace, in which B is the coke-burning fire-chamber, with the feed-doorway C in front and the retorts D over the fire-chamber.

In order to produce a very cheap, durable, and convenient device, by the use of which the workmen can easily and quickly transfer the ignited coke drawn from one or more of the retorts D into the fire-chamber B, I provide a discharge-spout, E, adapted to fit into or against the feed-doorway C, and combine with this discharge-spout a suitable conduit, F, extending upward from the spout E, and in respect to the mouth or mouths of one or more of the retorts above the lowest ones, so that when the discharge-spout is adjusted to the doorway C the hot coke drawn out of the mouth of such retort or retorts will pass down through the conduit F into the discharge-spout, and also combine with the said combined discharge-spout and conduit a stoking-passage, G, open at both ends, and opposite to, and as a rearward extension of, the said discharge-spout, and through which stoking-passage the workmen can, by means of a stoking-bar, H, readily push the coke from the spout E, through the doorway C, into the fire-chamber B of the furnace.

To render the combined discharge-spout E, conduit F, and stoking-passage G conveniently portable and adjustable, I combine therewith a wheeled supporting-truck, I, of any suitable construction, so that the workmen can easily draw and push the whole about in every direction upon the usual floor J in front of the furnace, and can thereby at once adjust the said discharge-spout and conduit to the feed-door and retort mouth or mouths of the furnace, while the same is supported in such adjustment by the wheels of the truck upon the floor in front of the furnace, substantially as indicated in Figs. 1 and 2, or 4 and 5.

In carrying out this invention the coke-con-

duit F can be of any suitable form; but I commonly prefer to have it consist of an upper rearwardly-inclined and downwardly-contracted chute, *k*, adapted to receive the coke drawn from the upper retort or retorts, and a lower forwardly-inclined chute, *l*, to conduct the hot coke from the chute *k*, over the stoking-trough G, into the discharge-spout.

I generally prefer to make the combined parts E, F, and G of suitable plates of wrought-iron or other proper metal, and to have the bottom plates thereof perforated when the coke is to be thereby screened in its passage from the retort to the fire-chamber.

What I claim as my invention is—

1. The device having in combination the discharge-spout E, fitting the feed-door of a gas-retort furnace, the conduit F, for receiving hot coke drawn from a retort in the furnace and to conduct the coke into the discharge-spout, and opposite to the discharge-spout the open passage G, through which a stoking-bar can be used to push the coke from the discharge-spout into the furnace, substantially as described.

2. The portable device having combined therein the discharge-spout E, conduit F, stoking-passage G, and wheeled truck I, substantially as described.

In testimony whereof I hereunto set my hand, in the presence of two subscribing witnesses, this 12th day of June, 1879.

FREDERICK A. SABBATON.

Witnesses:

JAMES H. SLADE,

JAMES T. GOODFELLOW.